

Appl. No. 09/681,992  
Amdt. dated December 26, 2005  
Reply to Office action of September 26, 2005

### REMARKS/ARGUMENTS

#### Examiner's Comments:

- 5                   2. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Cao  
                    (6,876,639).
- 10                  3. As per claim 1, Cao discloses an interleaved local suspend and reset method for  
                    a wireless communication system (see col.9, lines 15-45), the wireless  
                    communications system including a first station in wireless communications  
                    with a second station along at least one channel (see col.4, lines 6-23), the first  
15                  station initiating a local suspend function for the channel (see col.4, lines  
                    23-30) to perform a ciphering configuration change (see col.6, lines 25-51), a  
                    suspend point determined by a first sequence number (SN); prior to a resume  
                    command to terminate the local suspend function, initiating a reset procedure  
                    for the channel (see col.4, lines 39-56, the reset procedure causing a next layer  
20                  2 protocol data unit to be transmitted have an SN equal to default value (see  
                    col.9, lines 15-45); in response to the reset procedure, setting the first SN of  
                    the suspend point equal to [[a]] the default value; and awaiting the resume  
                    command for the channel to terminate the local suspend function, wherein the  
                    default value is zero (see col.4, lines 51-64, col.9, lines 15-45, col.6, lines  
25                  40-51).
7. As per claim 5, Cao discloses an interleaved local suspend and reset method for  
                    a wireless communications system (see col.9, lines 15-45), the wireless  
                    communications system comprising a first station in wireless communications  
                    with a second station along at least one channel (see col.4, lines 6-23), to  
25                  perform a ciphering configuration change (see col.6, lines 25-51), the first  
                    station initiating a local suspend function for the channel a suspend point  
                    determined by a first sequence number (SN) and a first hyper-frame number

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- (HFN) to form a first HFN/SN pair (see col.4, lines 23-56); prior to a resume command to terminate the local suspend function, initiating a reset procedure for the channel, the reset procedure causing a next layer 2 protocol data unit (PDU) to be transmitted have an associated HFN/SN pair having an
- 5 incremented HFN value and an SN value equal to zero (see col.4, lines 39-56, col.6, lines 40-51); after the reset procedure, and prior to terminating the local suspend function, the first station transmitting along the channel to the second station no layer 2 (PDUs) having associated HFN/SN pairs that are sequentially after the first HFN/SN pair; and awaiting the resume command
- 10 for the chaneel to terminate the local suspend function (see col.9, lines 15-45).
10. The applicant states that Cao does not disclose a reset procedure causing a next layer 2 PDU to be transmitted have an SN equal to a default value wherein the default value is zero. The Examiner disagrees with the Applicant. Cao
- 15 discloses that a TCPHN algorithm receives a notification from the physical layer that the mobile host is in handoff, the TCPHN variable to denote the handoff (see col. 6, lines 40-46). The TCPHN may be in a binary state variable or any other type of state suited to denote the beginning and the end of a mobile handoff. The TCPHN could be a binary state variable set to a non-zero value when a handoff is in progress and set to zero when a handoff
- 20 is not in progress. The TCPHN could be set to zero to denote a handoff is in progress and to non-zero value otherwise (see col. 6, lines 40-51).

**Applicant's Response:**

- 25 1. The amendments to claim 1 and claim 5 "to perform a ciphering configuration change" is merely to correct an error in the previous response. This limitation was added to claims 1 and 5 in the response to the first office action for this application and mistakenly omitted in the subsequent

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5 response. This can be verified by the USPTO PAIR page showing this  
limitation in claims submitted on 12/24/2004 and accidentally missing  
from the claims submitted on 07/21/2005. Please note that there is no  
indication anywhere of intent on the applicant's part to remove this  
10 limitation from claims 1 and 5. Additionally, the Examiner's comments in  
the current and previous Office actions reflect clear knowledge and  
awareness of this limitation in claims 1 and 5 at the time when the present  
application was being examined utilizing the currently utilized prior art  
(Cao). No new matter has been introduced and no new issues have been  
15 raised by these amendments. Additionally in the amendment, "at" is added  
in claim 1 and claim 5 to clarify that the suspending point is the point where  
new ciphering configuration should be started. This is supported in line 33  
p. 19 – line 3 p. 20.

15 2. Concerning the Examiner's comments numbers 3 and 7, the examiner quoted  
Cao's col. 6, lines 25-51 to indicate that Cao discloses the suspend function  
performs a ciphering configuration change. The Applicant cannot find any  
indication of ciphering configuration change throughout the teachings of Cao,  
explicitly or implicitly. The subject discussed by Cao is to improve the  
20 transmission performance of TCP data packets during handoff in a wireless  
communication system. No ciphering configuration problem is involved or  
implied by Cao in the whole disclosure. Specifically, within col. 6, lines 25-51  
as quoted by the Examiner, Cao describes how to maintain two variables,  
TCPHN-H and LAST-ACK. No ciphering configuration change is hinted  
25 within col. 6, lines 25-51.

3. Concerning the Examiner's comment number 10, the Examiner quoted from col.  
6, lines 40-46 and 40-51 about how to code the TCPHN variable (i.e.

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5 TCPHN-H variable), which could be set to zero to denote a handoff is in  
progress and to non-zero value otherwise. This is definitely true. However,  
TCPHN-H is not a sequence number. Please refer to Cao's Fig. 4. The  
TCPHN flag 53 in the acknowledgement packet is set to indicate handoff (see  
col. 8, lines 28-29). It is not taught by Cao that the Sequence Number field 46  
in the acknowledgement packet is changed to any default value. When the  
handoff finishes, the TCP context is reset to the last acknowledged packet and  
normal TCP transmission is resumed at step 6A-13 (see col. 9, lines 31-41).  
10 Since the context indicates the frozen congestion window size, the slow start  
threshold and the last byte that was acknowledged (see col. 4, lines 54-56) and  
the Sequence Number in the last acknowledged packet is not changed when  
the TCP context is reset, the SN of the next TCP data packet to be transmitted  
after TCP transmission resume is not specified to any default value by Cao.

15 4. In summary, Cao discloses a TCPHN algorithm to improve transmission  
performance during handoff. Being quite different from Cao's disclosure,  
the invention of this application discloses at least two ways to handle a  
suspending point at which ciphering configuration is changed to ensure  
that the ciphering configuration of the peer entities can be kept in  
20 synchronization after an interleaved local suspend procedure and reset  
procedure. The confusion comes from the same terminologies "suspend"  
and "reset" used by Cao's disclose and this application for different  
meanings. The present application discloses the claimed "local suspend" in  
at least paragraph [0030] and "reset" is described in at least paragraph  
25 [0028]. Cao, alone or in combination with any known prior art, fail to  
teach or suggest this claimed feature.

5. Concerning the Examiner's comments numbered 4, 5, 6, 8, and 9 in the present  
Office action, because the allowability of dependent claims ultimately depend

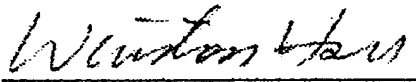
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upon the allowability of their respective base claims and it is believed that  
base claims 1 and 5 should be allowable, Applicant respectfully requests  
reconsideration of claims 1-7 and that a timely Notice of Allowance be issued  
in this case.

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Sincerely yours,

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Date: 12/26/2005

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is 13 hours behind the Taiwan time, i.e. 9 AM in D.C. = 10 PM in Taiwan.)